AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) In a display system that comprises a display screen, a processor for controlling use of the display screen to display information, and a hand held remote control device for communicating user input to the processor, a method of positioning a cursor on the display screen, the method comprising:

emitting a signal from a first location to a remote control device at a second location, wherein the signal has an incident direction at the second location;

receiving from the remote control device, data corresponding to an angular displacement between the incident direction of the emitted signal and at least one selected axis of the remote control device;

using one or more mapping functions or rules to map the received data corresponding to angular displacement of the remote control device into movement of the cursor, wherein said mapping functions or rules are dynamically modified or selected based on (i) a particular computing task a user is performing, or (ii) a particular region of the display screen to which user input is directed; and

positioning the cursor on the display screen in response to the mapped data.

2. (Previously Presented) A method as defined in claim 37, further comprising repeatedly:

moving the remote control device to establish a new angular displacement between the incident direction of the signal and the at least one selected axis of the remote control device;

detecting the new angular displacement;

transmitting data corresponding to the new angular displacement to the processor;

using the one or more mapping functions or rules to map the data received from the remote control device; and

positioning the cursor on the display screen in response to the mapped data.

3. (Previously Presented) A method as defined in claim 2, further comprising filtering the transmitted data to at least partially prevent the cursor from being positioned on the display screen in response to unintentional movement of the remote control device, wherein the unintentional movement has a magnitude less than a preselected threshold value.

4. (Cancelled).

5. (Previously Presented) A method as defined in claim 1, further comprising selecting a scale factor such that movement of the cursor is selectively proportional to a unit change of the angular displacement.

6. (Previously Presented) A method as defined in claim 5, wherein selecting a scale factor comprises detecting an angle subtended by the display screen from the point of view of the remote control device, and adjusting the scale factor proportionally to the subtended angle.

7. (Previously Presented) A method as defined in claim 37, wherein the step of detecting the angular displacement between the incident direction of the signal and the at least one selected axis of the remote control device comprises detecting a first component of the angular displacement about a first axis and further detecting a second component of the angular displacement about a second axis that is non-parallel to the first axis.

8. (Previously Presented) A method as defined in claim 37, wherein receiving the signal with the remote control device comprises projecting the signal through at least one lens.

9. (Previously Presented) A method as defined in claim 37, wherein receiving the signal with the remote control device comprises projecting the signal through at least one elongated opening in the remote control device.

10-21. (Cancelled).

22. (Previously Presented) A moveable remote control device for use in a display system that includes a display screen and a processor electronically connected to the display screen, the moveable remote control device transmitting to the processor angular orientation information of the moveable remote control device so that a selected user input function may be generated on the display screen, the remote control device comprising:

receiving means for receiving an electromagnetic signal emitted from a remote location;

orientation means for establishing an initial angular orientation of the remote control device, data corresponding to the initial angular orientation being transmitted from the remote control device to the processor;

first means for measuring a first component of an angular displacement of the remote control device about a first axis and relative to the initial angular orientation;

second means for measuring a second component of the angular displacement of the remote control device about a second axis and with respect to the initial angular orientation, the second axis being non-parallel with the first axis;

mapping means for translating movement data for the remote control device corresponding to the first component and the second component of the angular displacement into at least cursor movement data, wherein said mapping means are dynamically modified or selected based on either (i) a particular computing task a user is performing, or (ii) a particular region of the display screen to which user input is directed; and

transmitting means for sending the cursor positioning data to the processor.

23. (Original) A remote control device as defined in claim 22, wherein the receiving means comprises means for selectively projecting a portion of the electromagnetic signal onto a surface of the remote control device.

24. (Original) A remote control device as defined in claim 23, wherein the means for selectively projecting a portion of the electromagnetic signal comprises a first substantially cylindrical lens having a first longitudinal axis and a second substantially cylindrical lens having a second longitudinal axis that is non-parallel with the first longitudinal axis.

25. (Original) A remote control device as defined in claim 22, wherein the first means and the second means each comprises filtering means for selectively reducing the amount of electromagnetic radiation within the signal in response to the angular orientation of the remote control device.

26. (Original) A remote control device as defined in claim 25, wherein the filtering means comprises a gradient density filter.

27. (Original) A remote control device as defined in claim 25, wherein the filtering means comprises a first gradient density filter and a second gradient density filter oriented at about 180° with respect to the first gradient density filter.

28. (Original) A remote control device as defined in claim 25, wherein the filtering means operates using one or more of the physical processes selected from the group consisting of projection, absorption, focusing, reflection, refraction, and combinations of the foregoing.

29. (Original) A remote control device as defined in claim 23, wherein the means for selectively projecting a portion of the electromagnetic signal comprises an elongated opening in the remote control device.

30. (Original) A remote control device as defined in claim 22, wherein the first means and the second means each comprises detecting means for receiving and detecting an amount of electromagnetic radiation within the electromagnetic signal.

31-36. (Cancelled).

37. (Previously Presented) A method as defined in claim 1, further comprising the remote control device:

receiving the emitted signal;

detecting an angular displacement between the incident direction of the signal and the at least one selected axis of the remote control device; and

transmitting the data corresponding to the angular displacement.

38. (Previously Presented) A method as defined in claim 3, wherein the filtering is part of a mapping function.

39. (Previously Presented) A method as defined in claim 5, wherein selecting a scale factor is part of a mapping function.

40. (Previously Presented) A method as defined in claim 1, wherein positioning the cursor on the display screen is independent of the angular position of the remote control device about its central axis.

41. (Previously Presented) A method as defined in claim 1, wherein emitting the signal comprises at least one of modulating the signal and encoding data into the signal.

42. (Previously Presented) A method as defined in claim 1, wherein the signal is emitted from the first location to a plurality of remote control devices, the method further comprising:

receiving from each of the plurality of remote control devices, data corresponding to the angular displacement between the incident direction of the emitted signal and at least one selected axis of each remote control device; and

generating one or more user input functions on the display screen in response to the data received from each of the plurality of remote control devices.

43. (Previously Presented) A remote control device as defined in claim 22, further comprising means for decoding instructions that are encoded in the electromagnetic signal.

44. (Previously Presented) A remote control device as defined in claim 43, wherein the means for decoding instructions comprises a summing amplifier and a demodulator.

45. (Previously Presented) A remote control device as defined in claim 43, further comprising processor means for executing decoded instructions.

46. (Previously Presented) A remote control device as defined in claim 22, further comprising means for setting the remote control to an active state.

47. (Previously Presented) A remote control device as defined in claim 22, further comprising normalization means to compensate for changes in the apparent intensity of the signal.

48. (Previously Presented) A computer input system for generating a selected user input function on a display screen based on user interaction with a remote control device, the computer input system comprising:

emitter means for emitting a signal from a first location to a remote control device at a second location, wherein the signal has an incident direction at the second location;

receiver means for receiving from the remote control device, data corresponding to an angular displacement between the incident direction of the emitted signal and at least one selected axis of the remote control device;

mapping means for translating the received data corresponding to angular displacement into cursor movement data, wherein said mapping means are dynamically modified or selected based on either (i) a particular computing task a user is performing, or (ii) a particular region of the display screen to which user input is directed; and

processor means for generating the selected user input function on the display screen in response to the mapped data.

49. (Previously Presented) A computer input system as defined in claim 48, comprising:

means for storing data relating to a reference angular displacement of the remote control device; and

means for comparing the reference angular displacement to the received angular displacement data, whereby an angular movement of the remote control device is determined.

50. (Cancelled).

51. (Previously Presented) A computer input system as defined in claim 48, wherein the mapping means includes means for applying a scale factor to the received data such that movement of the cursor is selectively proportional to a unit change of the angular displacement.

52. (Previously Presented) A computer input system as defined in claim 48, further comprising means for filtering the transmitted data to at least partially prevent the selected user

input function from being generated on the display screen in response to unintentional movement of the remote control device.

53. (Previously Presented) A computer input system as defined in claim 52, wherein the means for filtering is within the mapping means.

54. (Previously Presented) A computer input system as defined in claim 52, wherein the means for filtering performs at least one of temporal and spatial filtering.

55. (Previously Presented) A computer input system as defined in claim 48, wherein the computer input system includes one or more remote control devices, and wherein each individual remote control device comprises:

receiver means for receiving the emitted signal;

orientation means for establishing an initial angular orientation of the individual remote control device;

first means for repeatedly detecting a variable first component of the angular displacement of the individual remote control device relative to the initial angular orientation by detecting the incident direction of the emitted signal, wherein the first component of the angular displacement is measured about a first axis;

second means for repeatedly detecting a variable second component of the angular displacement of the individual remote control device by detecting the incident direction of the emitted signal, wherein the second component is measured about a second axis that is non-parallel with the first axis; and

transmitting means for sending data corresponding to the first component and the second component of the angular displacement.

56. (Previously Presented) A computer input system for generating a selected user input function on a display screen based on user interaction with a remote control device, the computer input system comprising:

an emitter that emits a signal from a first location to a remote control device at a second location, wherein the signal has an incident direction at the second location;

a receiver that detects data transmitted by the remote control device, wherein the received data corresponds to an angular displacement between the incident direction of the signal and at least one selected axis of the remote control device;

a mapping module that comprises one or more mapping functions or rules applied to the received angular displacement data when translating the received angular displacement data into cursor positioning data, wherein the mapping functions or rules are dynamically selected based on (i) a particular computing task a user is performing, or (ii) a particular region of the display screen to which user input is directed; and

a processor that generates the selected user input function on the display screen in response to the mapped data.

57. (Previously Presented) A computer input system as defined in claim 56, further comprising:

an angular position buffer that stores a reference angular displacement of the remote control device; and

an angular displacement calculation module that compares the reference angular displacement to the received angular displacement data, whereby an angular movement of the remote control device is determined.

58. (Previously Presented) A computer input system as defined in claim 57, wherein the selected user input function comprises a cursor positioning function, and wherein a cursor position on the display screen is determined by the angular movement of the remote control device.

59. (Previously Presented) A computer input system as defined in claim 58, wherein the mapping module includes a scale factor that is applied to the received data such that movement of the cursor is selectively proportional to a unit change of the angular displacement.

60. (Previously Presented) A computer input system as defined in claim 56, further comprising a filtering module that filters the transmitted data to at least partially prevent the selected user input function from being generated on the display screen in response to unintentional movement of the remote control device.

61. (Previously Presented) A computer input system as defined in claim 60, wherein the filtering module performs at least one of temporal and spatial filtering.

62. (Previously Presented) A computer input system as defined in claim 56, wherein the computer input system includes one or more remote control devices, and wherein each individual remote control device comprises:

a first detector that repeatedly detects a variable first component of the angular displacement of the individual remote control device relative to an initial angular orientation by detecting the incident direction of the emitted signal, wherein the first component of the angular displacement is measured about a first axis;

a second detector that repeatedly detects a variable second component of the angular displacement of the individual remote control device by detecting the incident direction of the emitted signal, wherein the second component is measured about a second axis that is non-parallel with the first axis; and

a remote control device emitter that sends data corresponding to the first component and the second component of the angular displacement to the receiver.